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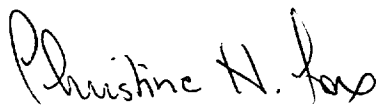
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Operation Uphold Democracy: Observations on Joint Assault Forces Operated From a CV

E.D. McGrady • Robert E. Sullivan

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Contents

Contents	i
Operation Uphold Democracy: Observations on Joint Assault Forces Operated From a CV.	1
Overview	1
Introduction	1
Organization of the report	1
Summary	2
USS Eisenhower/10th Mountain Division	3
Introduction	3
Scope	3
Loadout.	3
Flight-deck spot plan.	5
Hangar-deck spot plan.	9
Helicopter flight operations.	12
Cargo-transfer operations	17
Troop transfer	17
Sling loads.	18
Communications	21
VIP-EX	23
HERO conditions	25
Flight-deck safety	27
USS America/Joint Special Operations Task Force	31
Introduction	31
Overview	31
Forces embarked	31
Planned operations.	32
Chronology	38
Observations	40
Pre-embarkation preparations	40
Onload	42

Air operations	43
General observations	46
Summary	48
List of figures	49
List of tables	51

Operation Uphold Democracy: Observations on Joint Assault Forces Operated From a CV

Overview

Introduction

In September 1994, after months of unsuccessful diplomatic negotiations to restore the legally elected president of Haiti, the United States undertook the forcible removal of the military junta then in power. As part of this effort, two aircraft carriers (CVs) left Norfolk with a rather unusual mission. The fixed-wing aircraft and most of the air-wing personnel assigned to each of the CVs had been removed to make room for joint (mostly Army) assault forces and the helicopters to carry and support them. These forces were to have been the cutting edge of the planned assault on Haiti. This report contains observations on the operation of those forces from the CVs, with an emphasis on air operations.

Organization of the report

In response to last-minute tasking from Commander, Naval Air, Atlantic (COMNAVAIRLANT), a CNA analyst embarked in each of the CVs just before they sailed. Their tasking was deliberately rather vague; essentially it was to support, observe, and report. Beyond that, they were to respond to tasking from the carriers' commanding officers (COs), to whom they were to report. Because this tasking differed between the CVs—and also because the CVs themselves had different missions and forces embarked—the observations brought back from each CV differ in scope and emphasis. For this reason, we decided to publish the observations as a single report, but in two largely independent chapters. The first chapter contains observations drawn from the embarkation of the 10th Mountain Division on USS *Eisenhower*. The second chapter contains observations drawn from the

embarkation of the Joint Special Operations Task Force (JSOTF) on *USS America*.

USS Eisenhower

This chapter is organized largely by issues. The first section contains introductory material, including a description of the volume's scope. The second section deals with loadout issues, and includes subsections on preload preparations and the onload. The third and fourth sections describe spot plans for the flight deck and hangar deck, respectively. Flight operations are covered in the fifth section. The sixth section describes cargo-transfer operations, and includes subsections on troop transfer, sling loads, communications, and VIP transportation. The final section deals with safety considerations.

USS America

The second chapter is organized as follows: Section 2 (following an introduction) is an overview of the operation. It contains subsections describing forces embarked, plans, and rehearsals, as well as a brief chronology of the operation. Section 3 contains observations, broken down into subsections covering pre-embarkation, onload, air operations, and general observations. Section 4 contains a brief summary.

Summary

Although numerous problems were encountered and are documented in this paper, most were solved as they came up, and most of the others could have easily been handled if they had been anticipated. The ability to operate either conventional infantry or JSOTF assaults from a CV was clearly demonstrated. This should be considered a promising option for any future operations in which the CVs' air wings are not required for force defense or power projection.

USS *Eisenhower*/10th Mountain Division

Introduction

This chapter describes 10th Mountain Division helicopter operations on board USS *Dwight D. Eisenhower* during Uphold Democracy.

Scope

The following sections describe significant events that occurred during the onload of the 10th Mountain, the transit to the Haitian area of responsibility (AOR), and the launch of the 10th Mountain into Port-au-Prince on 20 September. This document covers only events related to helicopter operations and the offload. Other events occurred during the operation that had, or could have had, important operational consequences. If these do not relate to flight operations, however, they are not discussed in this document.

It is important to note that no fixed-wing aircraft were carried on board USS *Eisenhower* during the operation. This means that the ship did not have to mix helicopter and fixed-wing flight operations. The lack of fixed-wing aircraft also freed up all flight and hangar decks for helicopter use.

We have organized the information by issue instead of chronologically. This allows us to keep relevant lessons learned together and describe all aspects of an issue in the same place.

Loadout

Preload

The 10th Mountain and USS *Eisenhower* were notified of their involvement in Uphold Democracy about one week before they were scheduled to depart. In the week before departure, several events occurred:

- The ships' senior staff (Captain, Operations Officer, Supply Officer) met with the 10th Mountain staff for a face-to-face debrief at the 10th Mountain headquarters at Ft. Drum, New York. During this meeting, the 10th Mountain presented plans for deck-space usage for their helicopters and gear. The final deck-spot and hangar-bay loadout were variations on these plans.
- The 10th Mountain loaded a substantial portion of their equipment onto roll-on, roll-off ships for transit to Haiti.

Onload

The following is the approximate time line for onload activities.

September 13, 1030: USS *Eisenhower* arrived in Norfolk. Began off-load of air wing. All air-wing personnel not involved in supporting functions (messing, berthing, maintenance) were offloaded. The ship kept 417 personnel from the wing. The helicopter squadrons kept 237 personnel for maintenance and flight operations, with the remainder temporarily assigned to the ship for cooking and laundry duty.

1500: Began flying helicopters aboard; first trucks of supplies arrived.

2000: First of four 747s arrived, each carrying about 470 troops.

September 14: Flew remaining helicopters aboard during the rest of the day.

1700: Supply informed 10th Mountain it had no slings for sling loads.

September 15, 0500: Began final ammunition onload; onload continued until departed. (Two boxes of life preservers for troops loaded after lines cast off.)

The following table describes approximate equipment onloads. It also compares the number of pallets expected with the number that actually arrived. Everything except the ammunition and the soldiers' personal gear and weapons were stored on the hangar deck.

The 78 Tube launched, optically tracked, wire command link guided missile system (TOW) missiles for the AH-1s were scheduled to arrive

Table 1. Equipment loadout

Description	Number arrived	Number expected
Container vans (helicopter maintenance equipment)	29	36
Humvees	25	35
Humvee trailers	3	4
Potable water trailers	2	2
Pallets	15	23
Ammunition pallets	25+	

but did not make it for the initial onload. These were eventually flown out to *Eisenhower* from Guantanamo Bay on board the CH-53.

Table 2 shows the helicopter loadout for the ship. The Command Search and Rescue (CSAR) squadron and the two HH-60Hs associated with it were a Reserve unit. The Army helicopters flew on board while the *Eisenhower* was pier-side in Norfolk. The AH-1Fs flew on first and were spotted on the bow. The UH-60s followed and were spotted on the angle and aft. Before landing on *Eisenhower*, the helicopters refueled at NAS Norfolk and Ft. Eustis with jet fuel (JP-5). This, coupled with the mixing from the rest of the flight, raised the flash point of the fuel in the helicopters.

Flight-deck spot plan

Several different flight-deck spot configurations were tried. Each was a variation on the central concept of loading the Cobras on the bow and the H-60s on the angle. Several factors constrained the deck loading plan:

- Rotor blades. There was never any plan to fold the rotor blades of the Army helicopters.
- Forward-firing ordnance. HERO was a serious concern for the forward-firing ordnance on the Cobras. This led to the requirement that they be parked facing outboard on the bow.
- H-53 operations. When the H-53 departed or recovered, about 14 aircraft had to be moved.

- Command and Medivac helicopters. Command helicopters in most plans had to be launched first. Medivac helicopters had to be in standing alert positions.
- Rearming. The Cobra gunships had to be in a place where they could rearm and refuel with minimum interference or danger.
- Troop movement. The plan was to move troops from the hangar deck to the flight deck using the elevators (eventually the number 2 elevator). This required that they have access to the H-60s from the elevator while crossing a minimum of turning helicopters.

Table 2. Helicopter loadout

Squadron	Type	Number
10th Aviation Brigade		
3rd Btn. 25th Aviation Regiment		
Helicopter assault	UH-60L	19
	UH-60A	1
Command and control	EG-60	2
Command and control	OH-58C	6
2nd Btn. 25th Aviation Regiment		
Cobra gunship	AH-1F	14
Spotting	OH-58A	6
57th Medical		
Medivac	UH-60V	3
Navy		
HCS-4	HH-60H	2
HS-7	SH-3	3
HC-2	CH-53E	1

Figure 1 shows the initial-assault spot plan. In this figure, the helicopter rotor arcs are drawn to scale. Navy aircraft are shown stored and folded. Special-mission aircraft are identified by text.

This plan was modified to provide for early launch of the H-60 command-and-control helicopters and to provide room for the OH-58 command-and-control helicopters to launch. Figure 2 shows

one interim iteration on the spot plan. In this configuration, one of the command-and-control helicopters was set for ready alert in the hangar bay, ready to be pushed onto the elevator and moved up to the flight deck. At one time, there was also some discussion about launching the OH-58 command-and-control aircraft from a down elevator. In addition to the command-and-control aircraft, OH-58s had to be launched along with the AH-1s. The OH-58s act as target-spotter aircraft for the Cobras.

Figure 1. Initial-assault spot plan

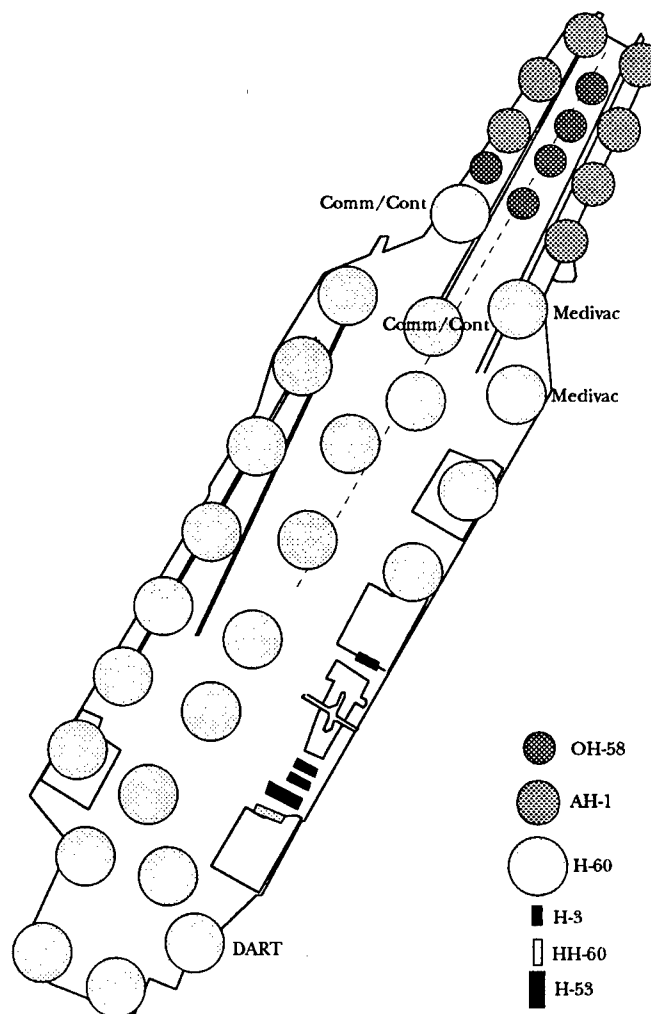
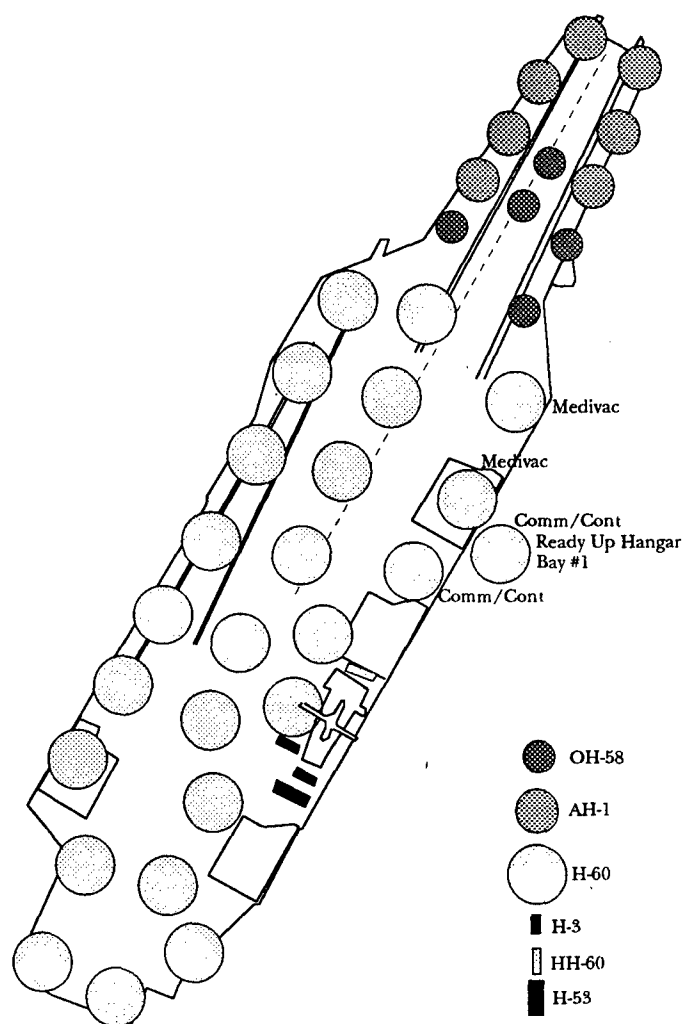
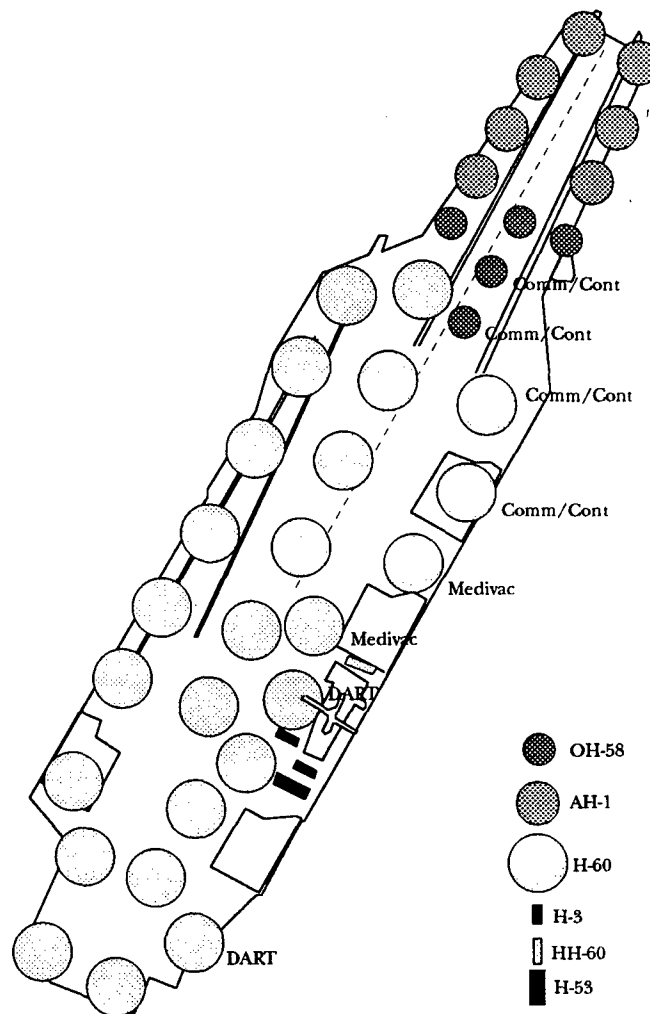


Figure 2. Intermediate-assault spot plan



The final deck spot plan allowed maximum flexibility in the order of launch. Command-and-control H-60s and OH-58s had clear paths for early launch. The Medivacs were also positioned well outboard of the other aircraft. Each group of six troop-carrying aircraft was positioned parallel on the angle. At launch they would be preloaded before engaging their rotors. After the first wave launched, groups of six aircraft would return and load passengers from the angle, while other helicopters slung loads from the fantail.

Figure 3. Final-assault deck spot



Hangar-deck spot plan

The ship's hangar deck could easily accommodate the equipment and troops the 10th Mountain brought on board (see table 1). The hangar deck had enough space to allow access to any particular piece of equipment or box at any time.

Besides using the hangar deck for equipment storage, the Army used it for helicopter maintenance. Ammunition was stored in the ship's Armory. The Armory was 95-percent full before onload, and 10th Mountain ammunition accounted for about another 1 percent of Armory space. This was partially because the 10th Mountain troops retained all their small-arms equipment (such as M-16s and 9-mm pistols), along with their personal packs.

Figure 4 shows the approximate configuration of the hangar deck during the final ship-to-shore transfer. Most of the aircraft maintenance and aircraft transfer between the hangar and the flight decks was conducted in hangar bay 1. It was easy to move Army helicopters between the flight and hangar decks by using the elevators. A typical breakdown of aircraft for 14 September was 38 on the flight deck and 17 in the hangar bay. Table 3 gives the mix of aircraft in the hangar bay and on deck.

Infantry equipment was prestaged on the hangar bay before the ship-to-shore movement. Army troops found it extremely difficult to maneuver inside the ship with their full combat packs and weapons. Therefore, the troops' packs were prestaged on the hangar deck the night before the movement. At the same time, ammunition was issued to the troops and left guarded on the hangar deck. Claymores and squad-level explosives were issued on the day of the movement.

The packs were arranged according to the order in which the troops were to move to the helicopters. The 2-22 Infantry Battalion was the first unit moved ashore. The 1-87 was positioned behind the 2-22. Each row of packs represented the load or "stick" that one H-60 would move. As troops moved onto the hangar deck, the next set of sticks would move in behind them. Troop movement is covered in the section on cargo-transfer operations.

Humvees, sling loads, containers, and pallets were located in the aft part of the ship. They were moved using elevators number 3 and number 4. This accommodated sling-loading from the fantail. Humvees were driven onto the flight deck by Army drivers. Humvees occupied the largest area in the hangar bay.

Figure 4. Hangar-deck loadout schematic, final-assault configuration

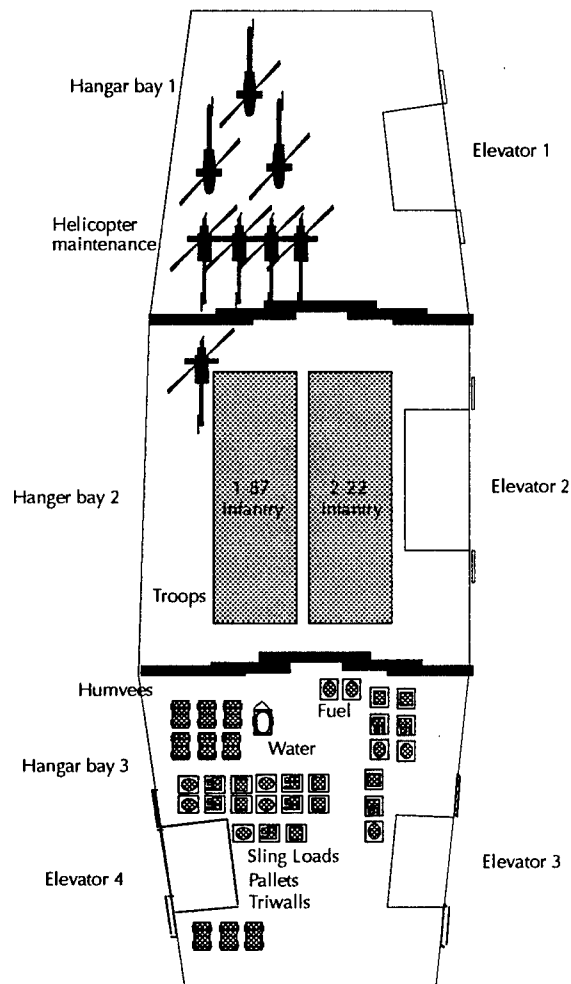


Table 3. Aircraft flight-deck/hangar-bay mix
(14 September)

Type	Number on flight deck	Number on hangar deck
H-60	23	2
AH-1	9	5
OH-58	2	10

The supply department gave the army "triwall" box containers to help with configuring their equipment for sling-loading. The equipment was placed in the triwalls and then sling-loaded for transfer. The triwalls would stabilize the equipment during movement. In several cases, equipment and the sling were placed inside the triwall, instead of the sling being placed outside the triwall. This resulted in the boxes not being secured when the load was lifted.

Extra infantry ammunition was moved into hangar bay 2 after the troops were loaded onto the H-60s. The ammunition was moved using elevator number 2. Helicopter ammunition was brought straight to the flight deck from the armory and loaded on the flight deck.

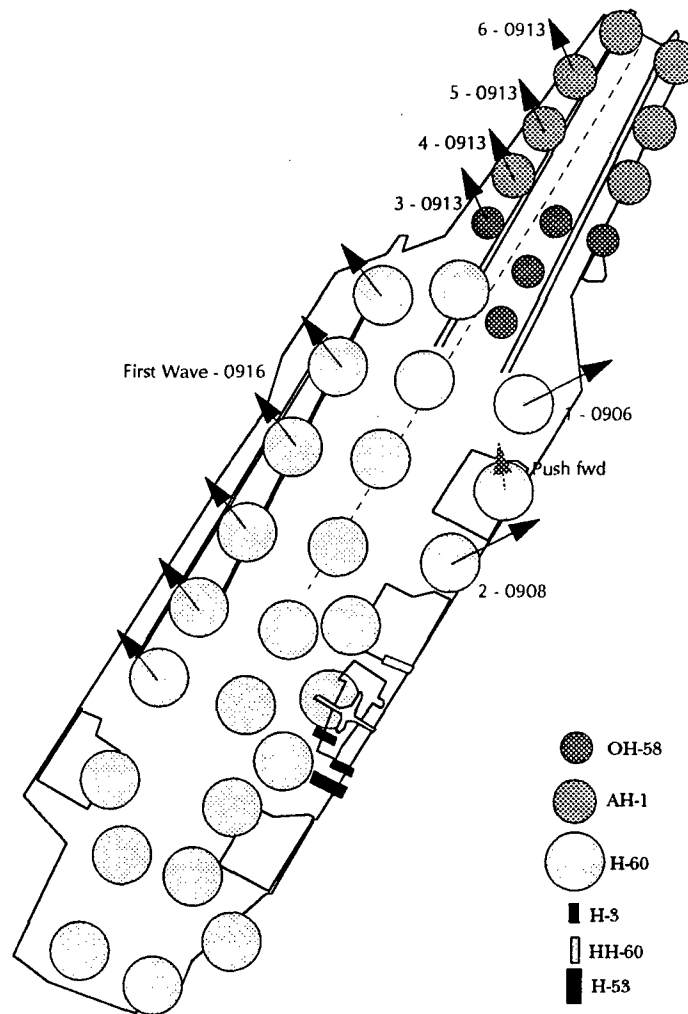
Helicopter flight operations

The ship-to-shore movement flight operations had two distinct phases. The initial launch included all of the H-60s and half of the AH-1s on deck. Figure 5 shows the times and the order of the first assault wave. The command-and-control helicopters were the first to depart at 0906.

When the AH-1s were launched at 0913, they flew to the starboard-delta holding pattern. In a standard airborne assault, the AH-1s should precede the H-60s so they can provide initial fire preparation and support for the landing zone. Because they were in the holding pattern, they were not sufficiently separated from the H-60s. The H-60s therefore had to be held while the AH-1s pushed in to the landing zone.

Figure 6 shows the airspace configuration for sling-load and passenger-transfer operations. Troop-carrying helicopters entered the port delta pattern. Troop carriers landed, loaded, and departed in groups of six aircraft. This allowed large numbers of troops to be moved on the flight deck at the same time, allowed the troops to maintain some unit integrity, and simplified launch and recovery operations.

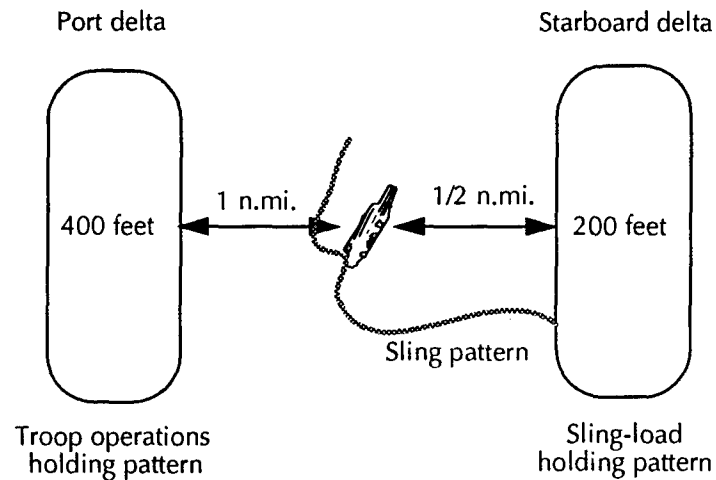
Figure 5. Assault-wave launch order, 19 September



Helicopter separation was an important lesson learned from the operation. As helicopters leave the flight deck, they lose ground effect. If one helicopter follows too closely behind the previous one, it can fly into the downwash from the first helo. Both of these effects can cause altitude loss. Army helicopter pilots, accustomed to flying over land, held to tight formations when arriving or departing the flight deck. Standard safe helicopter separations need to be established, and Army units operating from flight decks must train to the standards.

Figure 6. Air operations during ship-to-shore movement

Contact Air Boss within 3 n.mi.
Contact Strike outside 3 n.mi.



Helicopter control was done visually from primary flight control. UHF voice radio communications were the primary control circuit. When the radio circuits in primary flight control were busy, as they were right before the first launch, sometimes messages were lost. This happened with the AH-1s when communications associated with VIP arrival operations delayed communication with the AH-1s and they went to the port delta instead of proceeding inbound.

Army pilots preferred to maintain flight integrity during takeoffs and landings. If the pilots lost flight integrity, or otherwise needed help in landing, they would stop and hover and an LSE would run over and land them. This required an intensive effort from the LSEs and other flight-deck personnel, but it increased the safety of the operation.

There was concern about the AH-1's forward-firing ammunition. To minimize the danger, the ship had to be in HERO condition Red (one) when AH-1s loaded with ordnance were within 200 meters of the ship. The ship also required that the AH-1s never point their weapons in the direction of the ship during takeoffs or landings.

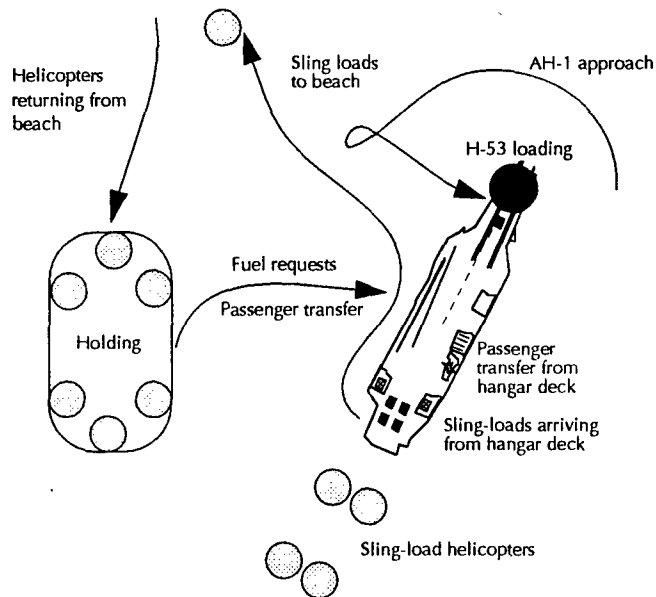
On 20 September, the Air Boss decided that the flow of sling loads could be increased if he offloaded some of the H-60s to the Port-au-Prince airfield. He was required to balance sling-load availability, requests for passenger transfer, requests for deck spots for fueling, and AH-1 operations with the rate of sling-load availability and the rate at which helicopters burned gas. Figure 7 shows the helicopter-sequencing process. By offloading helicopters, fuel and sling-load traffic could be more easily accommodated. He did not have aircraft waiting in an airborne holding pattern and requiring frequent deck cycles for refueling. Clearing the deck also allowed the H-53 enough room to operate. The Air Boss estimated that six H-60s should be offloaded to the beach. This turned out to be too few, given the lack of available sling loads for lifting. (Sling-load operations are covered in the next section.) It should be possible to determine the best number of aircraft to offload, given a distance to the beach, fuel consumption rate, and sling-load availability rate.

The H-53 that the ship brought along played an important role in the offload operations. It was capable of moving a considerable quantity of cargo a long distance. For example, the H-53 was used to fly into Guantanamo Bay and retrieve an engine for one of the Army H-60s (HH-60H engines are not compatible with H-60 engines, therefore a simple substitution could not be made). The H-53 also brought in 78 TOW missiles that had not arrived in time to be loaded on board *Eisenhower*.

However, H-53 flight operations posed a challenge for the Air Boss. The downwash from the H-53 could cause damage to the rotor blades of other aircraft parked near it. Because of this, Army helicopters had to be respotted every time the H-53 took off or landed. In the combat configuration, this required moving 14 Army aircraft. This occurred as many as three times a day. With so many aircraft being respotted,

the possibility increased that a rotor blade or other aircraft part would be damaged.

Figure 7. Sling-load dynamics



Aircraft were fueled in their deck spots. AH-1s were fueled and re-armed on the bow, whereas H-60s were fueled on the angle. The Army brought enough adaptor nozzles (Navy to "Wiggens" nozzle) so that pressurized fueling was not a problem. H-60 external fuel tanks were occasionally used. These are gravity-fed fuel tanks that were fueled only when the helicopter was shut down.

Army helicopters do not have rotor brakes. This means that when they shut down during operations, which they did occasionally for fueling, arming, or maintenance, it took five to ten minutes for the blades to spin down to a stop. This can delay some deck operations.

Cargo-transfer operations

Troop transfer

As previously described, troops were staged on the hangar deck. The notional plan for loading troops was to use the IMC to control their movements. Well before the offload started, units would be awakened, fed, and dressed out. A sailor would then be available for each "stick" of ten troops to lead the troops through the ship from their berthing to the hangar deck. On the hangar deck, the troops would marry up with their equipment and would be loaded onto elevator number 2 for the ride to the flight deck.

The first wave would preposition in the H-60s before launch. If the H-60s had their passenger seats in, they could accommodate 10 soldiers and their equipment. If they had their seats removed, they could accommodate 20 soldiers. The 10th Mountain pressed 18th Airborne Corps for permission to remove the seats. The issue was one of safety; the troops would not be as secure in the helicopters without the seats. The 10th Mountain was given permission to run seats out for the first day of the operation. This considerably increased the troop flow rate.

After the first wave left, subsequent waves of troops boarded their helicopters while the helos were turning. This increased the safety hazard to troops on the flight deck. To minimize safety problems and to ensure that each stick went to the proper helicopter, Navy flight-deck personnel (blue shirts) led each stick to the appropriate helicopter.

Because of the vagaries of flight-deck operations, troops occasionally had to wait for long times on elevator number 2 while it was at the flight-deck level. To leave the troops standing in full combat gear in the tropical sun on a flight deck could cause their dehydration. The ship therefore provided water stations on the hangar deck and at the island near elevator number 2.

A significant challenge for the 10th Mountain and *Eisenhower* was providing adequate safety flotation devices for the Army troops. There was a limited supply of "water wings." This shortage was noted

during the onload; in fact, the last items unloaded were two pallets of water wings. These were transferred onto the ship by crane after the last lines had been cast off.

Because the ship only had 400 water wings for 1,500 troops, returning helicopters had to collect the water wings for the next stick. This required the troops to disembark, unsling their packs, and remove the water wings. The ship provided bags for the pilots to use to collect the water wings.

The movement ashore was into a permissive environment. However, had the environment not been permissive, 10th Mountain and *Eisenhower* commanders would have had to choose between the safety risk of not having flotation gear and a significantly decreased rate of troop movement ashore.

By the end of the second day, water wings were beginning to run low despite the permissive environment. On the beginning of the second day, the ship sent a Marine Detachment (MARDET) and the ship's Executive Officer (XO) in to recover water wings. The expedition was not very successful; the greatest success came from 10th Mountain helicopter pilots setting down on the airfield and collecting the water wings.

Sling loads

Load priority

The Army had developed a planning matrix for cargo and personnel movement ashore. As will be discussed in a subsequent section, this plan was abandoned early in the process because of the unexpected arrival of large numbers of civilian and command passengers.

The basic priorities for the assault phase were as follows:

- Troops
- High mobility multi-purpose wheeled vehicles (Humvees)
- Water
- Meals ready to eat (MREs).

A combination of lack of communication between Army personnel, disrupted plans, and failure to set priorities resulted in flight control having only limited understanding of what the priorities were. As priorities ashore shifted, lack of communications hampered the word getting back to the ship. At one time, the ship was still slinging troops and Humvees when water had been articulated as a priority.

On the second day, a similar disconnect occurred with MREs. Troops ashore needed water and MREs, however, the only available slings consisted of Humvees and other items. Because of the limited communications between the hangar deck, primary flight control, and the beach, a significant lag occurred between the time when something was requested and when it arrived for pickup on the flight deck.

Cargo nets

At 1700 on 13 September (the ship left on the 14th), the 2nd Lieutenant on the ship noted that neither the 10th Mountain nor the ship had an adequate number of cargo nets or slings. After calling the 10th Mountain at Ft. Drum, the ship eventually secured enough slings. However, neither the ship nor the 10th Mountain had enough cargo nets to cover all of the sling loads. After the operation, the Air Boss estimated that combat conditions would require 100 to 150 percent of all of the loads to have a cargo net available on the ship. The ship started the operation with only a small fraction of that number.

The lack of cargo nets caused the same problem for sling loads that the lack of water wings caused for troop transport, but the sling-load problem was more severe. Sling loads had to be broken down ashore, after which the cargo nets were recovered and sent back to the ship on the next available helicopter. The troops ashore lacked the equipment (such as rough-terrain forklifts) to quickly break down the cargo loads once they were dropped off.

Lack of cargo nets became critical on the second and third days. On the second day, helicopters were held for hours in holding patterns waiting for sling loads to become available. On the third day, pallets were broken down and items were loaded into the passenger compartments of H-60s. On the morning of the third day, the ship's XO

and a MARDET detachment went ashore to collect cargo nets. Only a few were found.

Under combat conditions, items such as slings and water wings will become expendable items.

Load handling

On 19 and 20 September, sling loads were prepared on the hangar deck, then moved by forklift onto the number 3 elevator for transfer to the flight deck. Humvees were driven by Army drivers onto elevator number 4 and lifted to the flight deck.

On 21 September, sling loading started off on the hangar deck, then all remaining cargo was loaded onto the number 2 elevator and moved to the flight deck for loading. This significantly improved the command and control between primary flight control and the sling-loading personnel.

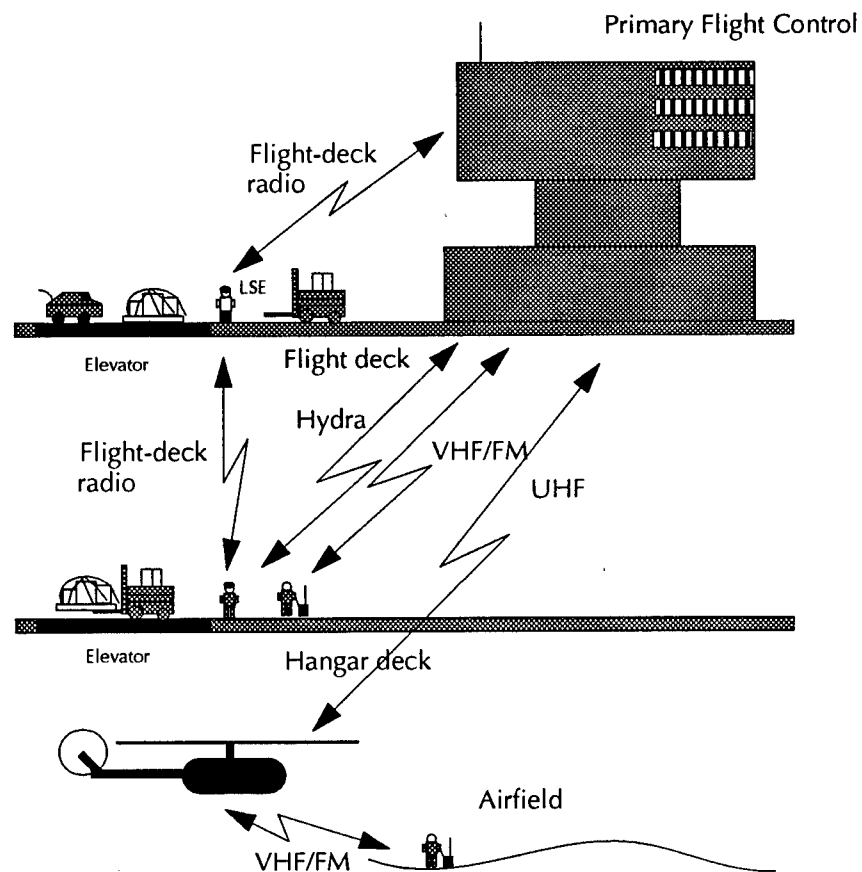
According to Army regulations, only certified personnel can check sling loads. Thus, Army sling-load personnel became a mission-critical item. This affected the flow rate on 21 September, when all Army personnel remaining on board were directed to report to the hangar bay for transfer ashore. Some of the Army sling-load personnel went to get their equipment. This left only two sling-loaders on the flight deck to sling and check the loads. This caused a significant delay in sling-load operations until additional sling-load personnel were moved to the flight deck.

Before leaving Norfolk, *Eisenhower* borrowed a 20-K-ton forklift from USS *Theodore Roosevelt*. The 20-K forklift can move heavier loads than the standard warehouse forklift. By having one 20-K forklift on the hangar deck and one 20-K lift on the flight deck, large loads could be moved simultaneously on both the flight and hangar decks. This increased the speed of the loading operations.

Communications

Communications connectivity between all Army and Navy personnel involved in the offload was a limiting factor in moving equipment. Figure 8 shows the basic communications configuration for the operation. The Army Pickup Zone (PZ) Control Officer was stationed in Primary Flight Control (PRIFLY). He was responsible for coordinating the offload and setting priorities for the Army's requirements between personnel and sling loads, and among the various types of material to be sling-loaded.

Figure 8. Communications during offload operations



He could talk directly with the Air Boss or, using an Army VHF radio, with load handlers on the hangar deck. The Air Boss could talk to Army helicopters using UHF flight-control circuits. There were no Navy VHF/FM radios capable of communicating with either the helicopters or the troops ashore. A typical exchange would be the Air Boss asking the PZ officer where a load should go, and then relaying that to the Army helicopter. Army helicopters were occasionally used as indirect relays with troops on the beach or at the airport. The Army VHF/FM portable radios did not have the range to reach the airport directly. The primary systems the ship used to communicate with Army units ashore were satellite communications (SATCOM), plain old telephone systems (POTS), and Hydra.

The Hydra radio system is a UHF digital, hand-held, repeater radio system installed so that personnel-issued radios could communicate throughout the ship. When the XO went ashore to retrieve cargo nets, he could talk from the ship to shore via his portable radio.

Officers in Primary Flight Control could use the Hydra radio system to communicate with Army and Navy officers on the hangar deck. On 20 September, the Air Boss also set up a system of load control using LSEs stationed on both the flight deck and the hangar deck. Using the flight-deck communications system, he could talk directly with LSEs loading on the hangar deck or LSEs spotting sling loads on the flight deck.

Despite the effort to ensure communications connectivity between the flight and hangar decks, the following difficulties were encountered:

- Throughout the operation there was no clear command structure on the hangar deck. The PZ officer had stationed himself in Primary Flight Control. From there he could watch the loading operations, but he had little situational awareness about what was going on the hangar deck. As the loading process was the Army's responsibility, the Navy was put in a supporting role rather than a command role. When the Navy did assume charge of loading operations, it did not know the load priority or destinations, nor was an officer identified as having clear responsibility for hangar-deck operations.

- Lack of communication with the beach prevented load on demand. Often word of priority for beach loads had to come back with returning aircrew. Because of the lack of command and control between PRIFLY and the hangar deck, it took a while for old pallet loads to empty through the process and the critical material to become available for sling loading.
- The sling-load plan never effectively recovered from the early disruption to the plan caused by unexpected and unplanned-for passenger transfers (see next section). When the disruption occurred, the load plan became less a timetable and priority list and more a checklist for loads that had been transferred and those that had not.

In summary: One "load boss" needs to be assigned to the hangar deck and another to the flight deck. Their sole job should be to track the loading process and to ensure that the right loads are being broken out, packed up, and slinged. They should communicate through the flight-deck communications system so that both the PZ officer and the Air Boss understand what is occurring on both the flight and hangar decks.

VIP-EX

During the night of 18 September, the ship was informed that plans for the movement ashore were still being discussed at the USACOM/JTF level. Gen. Sheldon and his staff were putting together a new plan for movement of the 10th Mountain troops. This plan was first relayed to the ship at 0630 on 19 September.

At 0629 the deck had been spotted for the initial wave to launch at 0930. At that time, a call came from USS *Mount Whitney* that it had 47 passengers to transfer to USS *Eisenhower*, and from there to shore. *Eisenhower's* H-3 began assisting *Mount Whitney's* helos with the passenger transfer. At 0706 Gen. Mead arrived from *Mount Whitney* with several assistants and about half an H-60 of cargo. At 0713 *Eisenhower* was told Gen. Sheldon was arriving at 0910, so the launch schedule was changed to 0900. At the same time, *Eisenhower* learned that Gen. Schumaker was inbound from USS *America*.

At 0804 *Eisenhower* was told that *America* and *Mount Whitney* were sending the press from those ships to the *Eisenhower*. The ship's Public Affairs Officer (PAO) media plan was to remove one soldier from each helicopter to allow media to fly in with the soldiers. This was never communicated to the Army, so no press were allowed on with the first wave of helos. At 0851 word was passed that Gen. Mead's helo was inbound. At 0855 the decision was made to load the troop-transport helicopters and deny the General's helicopter permission to land.

At 0900 the launch was stopped by the Army. The Generals were now to launch first, before arrival of ground troops. The plan changed to launching one command-and-control helicopter with Gen. Mead on board. The plan changed again when it was realized that 0930 was the wheels-down time at Port-au-Prince, not the launch time from the CV. Launch time was then moved back to 0915. Additional command and press helicopters landed at 0920, 0925, and 0928.

The arrival of three different Generals and their associated staffs, plus about 50 Press Corps members, challenged the command-and-control capabilities of *Eisenhower's* flight-deck crew. The lack of notice or a plan for embarking and moving large numbers of staff affected operations as follows:

- Many Army and civilian personnel were put on the flight deck without the proper equipment or control. The lack of water wings for the General or his staff required that other Army soldiers give up theirs. The Press flew without flotation equipment. Army and civilian personnel were moving about the flight deck without cranials or flotation coats.
- The Army's movement ashore was disrupted. Helicopters had to be reconfigured to accommodate the General's staff and their associated equipment. Several helicopter loads of troops were replaced with members of the Press Corps.
- The ability of the ship's staff to communicate with the Army about the change in plans was limited. The lack of a consistent Army/Navy policy on Press embarkation was the result of a lack of time to communicate.

- Flight-control personnel were distracted. Army planning called for the Cobras to launch first, followed by the troop-carrying helicopters. This would allow the Cobras to scout the landing zone and to provide protective fires. When the Cobras launched, they went to the starboard delta pattern instead. It wasn't until the H-60s launched that controllers noticed the mistake. This resulted in the H-60s with their embarked troops holding over water while the Cobras pushed inland to establish the correct time separation. This had only minor operational impact.

All of these events presented a significant challenge to the command-and-control mechanism developed by the Army and Navy helicopter controllers. The professionalism and skill of the individuals involved resulted in the change in plans not seriously disrupting the initial launch.

The changes in plans did, however, disrupt the Army's load schedule. Instead of following the script as laid out during the planning process, they now had to improvise according to a steadily changing set of lift requirements. In addition to passenger transfer, two additional helicopter loads of new support equipment was added to the schedule. The backlog produced at the start of the operation continued to ripple through the day's operations, delaying the time line for moving support supplies ashore.

HERO conditions

Table 4 lists the ammunition carried by the AH-1 Cobra helicopter. This ammunition represented a significant HERO concern. The TOW missiles that the Army brought with them were MOD 1 TOWs, which were considered HERO unsafe. The Army had asked for MOD 3 TOWs, which were less of a HERO risk.

The ship went through several iterations of appropriate emitter-control policy. Operations were affected in two ways:

- Communications, especially Army flight-deck and ship-to-shore communications

- Ship situational awareness. All air search radars had to be brought down during HERO. This meant the ship had to rely on Link to track aircraft during HERO Red.

Table 4. AH-1 ordnance loadout

Type	Number
20-mm cannon	Cannon rounds
2.75-inch folding fin rockets	12
TOW missile	2

The challenge was to balance the need for communications and situational awareness with HERO requirements. After consulting with shore-based ordnance experts, the ship settled on a modified version of HERO condition 1, or what they called HERO Red. The ship documented HERO Red in a memo dated 16 September 1994:

1. HERO Condition Red will be set on board USS *Dwight D. Eisenhower* prior to loading the deployed U.S. Army Cobra helicopters. HERO Condition Red will be set prior to commencement of the ammo load and will remain in effect until after the Cobras have departed IKE and achieved at least 200-meter separation from the ship. This condition applies to HERO UNSAFE ORDNANCE, or ordnance rendered HERO UNSAFE.

2. All communications transmitters shall be silent with the exception of the following:

- | | |
|--------------------|------------------------------|
| a. AN/URC-80(V) 5 | Bridge-to-Bridge comms |
| b. AN/WSC-3 SATCOM | DAMA |
| c. AN/WSC-3 LOS | UHF tactical voice |
| d. AN/URC-93(V)2 | UHF Link 11 data |
| e. AN/GRT-21(V)3 | IAD |
| f. AN/SRC-47 | flight-deck comms |
| g. AN/SRC-40 | aircraft equipment alignment |
| h. HYDRA | inner-ship/flight-deck comms |
| i. AN/OZ-43 | SHF |
| j. AN/USC-38 | EHF |

3. All radar transmitters shall be silent, with the exception of the following:

- a. IFF
- b. TACAN
- c. SPS-67 Surface Search
- d. SPS-64 Surface Search

4. All aircraft transmitters shall be silent and shall remain silent from commencement of the ammunition loading evolution until after the Cobras have departed IKE and achieved at least a 200-meter separation from the ship.

Flight-deck safety

Safety was emphasized throughout the operation. The primary categories of safety concern were as follows:

- Flight-deck safety
- Hazardous-materials safety
- Aircraft safety.

The following paragraphs summarize issues in each of these categories.

Flight-deck safety

This operation placed many personnel who had no previous experience working on a Navy aircraft carrier on the flight deck around turning helicopters. At times, Army personnel or civilians, such as the Press, were on the flight deck without escort and without the proper safety equipment (cranial, float coat).

When embarking Army personnel, Navy crewmen need to expect that there will be people moving about the flight deck who are unaware of safety procedures. The ship responded to this by using LSEs and other flight-deck personnel to escort Army troops embarking in helicopters. Flight-deck personnel also were used to monitor and control other personnel on the flight deck.

Also, the ship's safety office produced a series of safety video tapes that were shown on ship's TV to brief Army personnel on shipboard hazards.

Hazardous materials safety

There were two categories of hazardous materials:

- Ammunition
- Gasoline and other materials associated with Army hangar deck equipment.

The ship implemented HERO and other ammunition-control measures discussed in other sections.

Hazardous materials other than ammunition were inventoried. The purpose of the inventories was to establish what was on board in case of fire. In conducting these inventories, the ship emphasized to Army personnel that the purpose was only for firefighting, and the material would not be confiscated. Some of the material was a surprise to the Army, such as Humvee batteries.

Aircraft safety

The Army helicopter pilots from the 10th Mountain had recently qualified for aircraft carrier flight operations on board USS *Theodore Roosevelt*. These pilots were familiar with shipboard flight operations and procedures.

The principal issues of flight safety were as follows:

- The Army uses helicopter landing lights to signal whether they are ready to lift.
- Navy and Army terminology (port/starboard, for example) were standardized, then changed several times because of a desire to accommodate the other service. Establishing a standard terminology and sticking to it may be more important than the terminology itself.

- Army formation flying practices are adapted to overland operations. Aircraft separation needs to be increased to allow for the unforgiving nature of over-water operations.
- The Army standard for reporting fuel state is time until splash. The Navy standard is time until 30 minutes to splash.
- Army sling-load aircraft check the weight of the load by carefully checking the torque required to lift the load when they pick it up. Navy and Air Force load handlers weigh the load before loading the aircraft.
- Navy crash and salvage crews had to become familiar with Army emergency egress exits.
- Flight-deck hand-signal charts were issued to Army flight-deck personnel and aviators. On several occasions, however, Army helicopter pilots followed Army procedures instead of the direction of an LSE.

USS *America*/Joint Special Operations Task Force

Introduction

This chapter documents operations of the Joint Special Operations Task Force (JSOTF) on board USS *America* in Uphold Democracy. During that operation, America's air wing was disembarked and was replaced by a full complement of JSOTF helicopters. The primary thrust of the report concerns the operation of those helos from a carrier (CV) deck, although some observations not directly related to air operations also are included.

The chapter is organized as follows: Section 2 is an overview of the operation. It contains subsections describing forces embarked, plans, rehearsals, and a brief chronology of the operation. Section 3 contains observations, divided into sections covering pre-embarkation, onload, air operations, and general observations. Section 4 contains a brief summary.

Overview

Forces embarked

JSOTF forces embarked in USS *America* for this operation consisted of diverse elements drawn from the Navy, the Marines, the Army, and the Air Force, for a total of about 1,800 people. (Exact numbers varied from day to day.) Of these, about 900 (two battalions plus elements of a third) were Army combat troops slated for assault operations. Although the JSOTF force was both complex and interesting, these are the two figures that primarily determine how large a force can be operated in this manner: 1,800 people had to be fed and housed, and 900 had to be lifted ashore.

To transport and support these forces, JSOTF also embarked 64 helicopters as follows:

Army	15 CH-47
	22 H-60
	19 H-6
Air Force (CSAR)	5 H-60
Navy	3 H-60

Planned operations

JSOTF forces were to have been the cutting edge of the assault on Haiti, but when an agreement was reached allowing unopposed entry and occupation, it was decided that more conventional troops would be more appropriate. At that time, JSOTF shifted to a contingency response posture. As it turned out, they were never called upon to act in that role. Still, there is much to be learned by examining the plans and rehearsals for both the assault and the contingency response options.

In this section, JSOTF plans and rehearsals are described from a CV flight-operations point of view. In particular, deck configurations and launch sequences are given for each option. Specific lessons learned are provided later in the Observations section.

Initial plan: Assault and follow-on operations

Deck spot. As originally planned, JSOTF's flight operations were to consist of a large initial launch involving almost every aircraft on board, followed by level-of-effort operations in support of forces ashore. Although neither phase was executed, both were planned and the initial launch was rehearsed. Plans for these two phases and a general description of the rehearsal are presented in the following paragraphs.

The large initial launch was to be the most difficult phase of the entire operation. Forty-nine aircraft needed to get off the carrier as rapidly as possible. This was to be done in two carefully timed launches,

spaced as close together as possible. Because experience in earlier exercises and operations has shown that unfolding the blades of larger helos can occasionally be very time consuming, it was decided that none of the H-60s or H-47s would start the operation folded, which of course meant that they all—including spares—had to stay on deck. (There was one exception: the Medivac H-47.) Fortunately, the small H-6s move and unfold quickly and easily and were all scheduled for the second launch, so they all could begin on the hangar deck.

The deck at the beginning of the first launch is shown in figure 9. The aircraft for the second launch were unfolded, but they were parked as closely together as possible next to and behind the island and aft of elevators number 3 and number 4. The rest of the deck was filled with aircraft spread out for the first launch: 6 H-47s (5 turning, plus 1 spare) and 19 H-60s (16 turning and 3 spares). These aircraft were to launch in the following sequence:

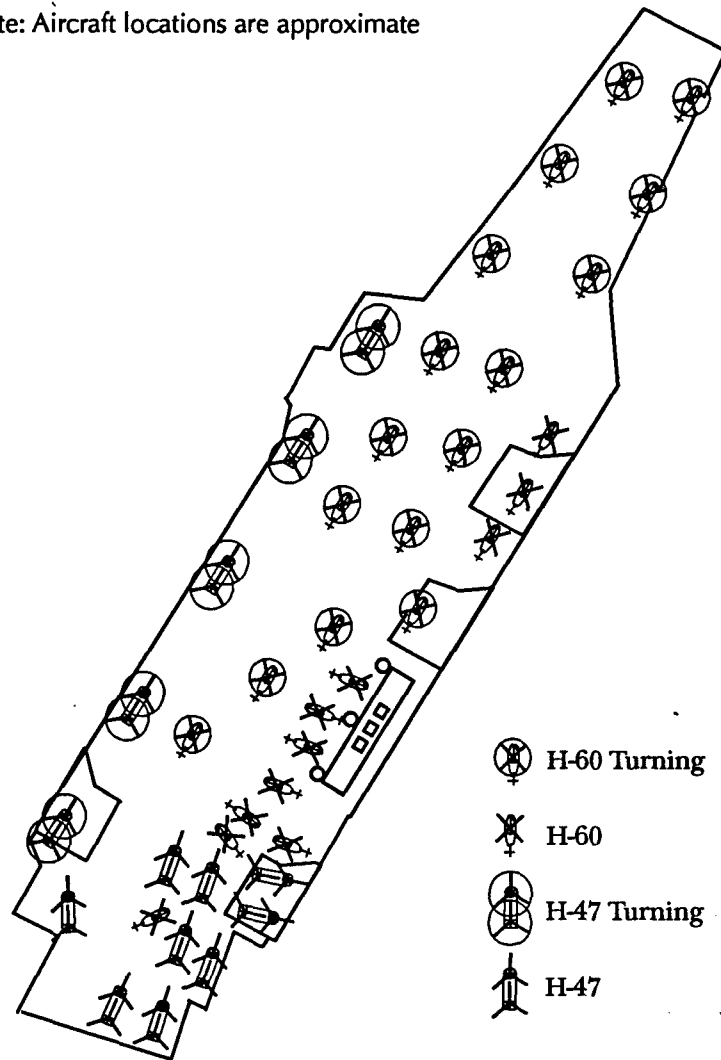
- Two H-47s from the angle
- Three H-60s on the port bow
- Three H-60s on the starboard bow
- Three H-60s next in from the angle
- Three remaining H-47s to port
- Seven remaining H-60s amidships.

Figure 10 shows the deck after a rapid respot, ready for the second launch. The aircraft that had been packed together astern were now spread out, and 16 H-6s had been brought topside. These aircraft are to launch in the following sequence:

- Two H-60s on the angle
- Six H-6s on the bow
- Four H-6s on elevator number 2
- Two H-47s on the stern
- Three H-47s to port
- Two H-60s amidships abreast elevator number 2.

Figure 9. First Launch: Task Force Atlanta as of 121400R Sept. 94

Note: Aircraft locations are approximate

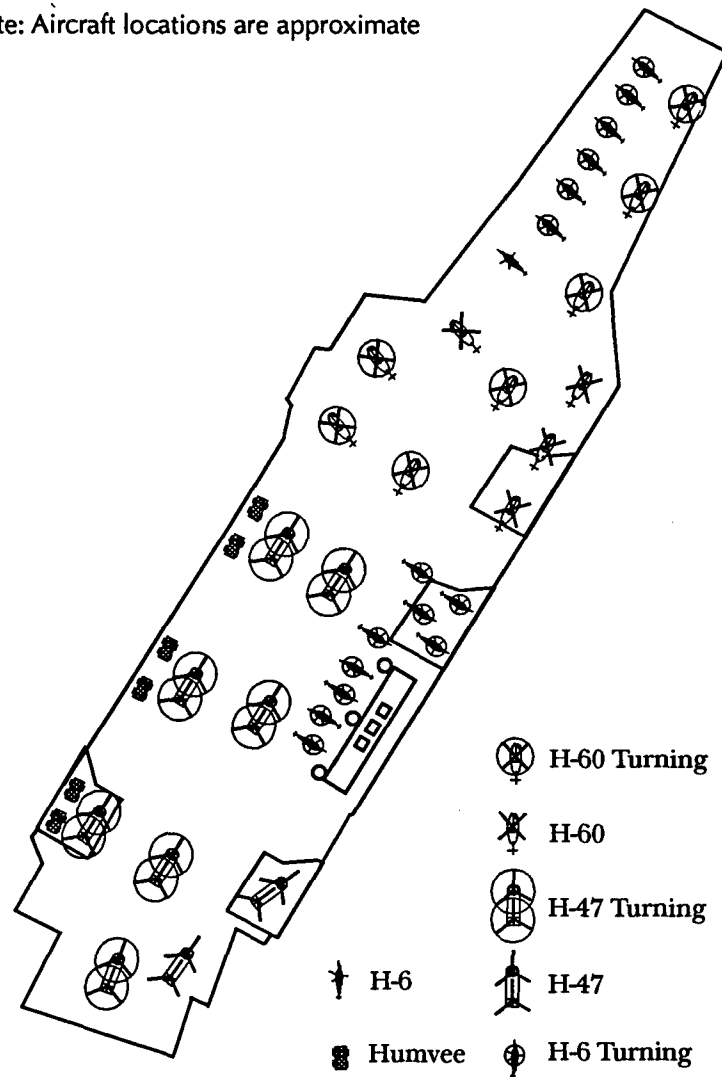


- Two remaining H-47s abreast of the island
- One remaining H-60 far forward
- Four remaining H-6s abreast of the island.

Rehearsal. The two launches just described clearly create a challenge for the flight deck. However, in some respects, rehearsing the plan was even more challenging because the first wave did not simply

Figure 10. Second Launch: Task Force Atlanta as of 152300Z Sept. 95

Note: Aircraft locations are approximate



disappear over the horizon. Those helos were held in the vicinity of the CV, and their fuel limitations determined the maximum time available to exercise and "re-pack" the second wave.

As originally planned, the rehearsal was to follow this general sequence of events:

- The deck is readied, and the helos of the second wave are pre-loaded with some of the gear to be carried by the embarked troops. (This is done to minimize the amount of bulky gear to be carried rapidly through the narrow passageways leading to mustering areas and the flight deck.)
- Starting at H-3:45, the first wave is loaded. No ammunition is loaded, but slings are rigged as planned.
- The first wave lifts at H-1:45.
- The deck is respotted by H-1:15. The second wave loads. Again, no ammunition is loaded, but loading is simulated.
- The second wave starts engines.
- When the entire wave is ready to lift, the engines are stopped and the troops unload.
- The helos of the second wave are returned to their "stowed" positions.
- The first wave recovers, with each helo returning to about the same spot that it occupied before. Troops from the first wave unload.

In theory, this schedule allowed plenty of time for the first wave to get back aboard before it ran into fuel problems, but the Air Boss (having much more experience than the JSOTF planners with how messed up a deck can become) expressed serious concern. He saw no point in having troops loaded in the first wave. JSOTF planners, however, pointed out that moving their troops onto the aircraft was one of the most important parts of the rehearsal because they were not accustomed to operating on a CV. Fortunately, someone suggested a solution that made everyone happy: The first wave of troops would load, but at that point the "exercise clock" would stop and they would immediately unload. Once they had cleared the deck, the clock would be re-started, and the first wave would lift. This solution not only reduced the risk to the troops, but it also substantially lightened the load, which reduced fuel consumption and relieved some of the

time pressure. (It was also popular with the troops; no one likes sitting in a crowded helo for hours.)

The rehearsal was carried out as planned on the evening of 16 September. A lot was learned, particularly about the amount of time required for the various phases of the plan. For example, moving the troops and their gear onto the helos took much less time than anticipated, but the respotting between lifts took much more time than had been allowed. These and other lessons are discussed in a later section of this report.

Follow-on operations. If the operation had gone ahead as planned, the CV would have been supporting three primary tasks during follow-on operations:

- Flow of supplies to the beach
- Re-arming and refueling of helos
- Medivac.

The JSOTF planners were enthusiastic about the possibilities of the large deck in supporting these efforts. Evidently, when operating from smaller decks it is difficult to carry out more than one type of task at a time, and scheduling becomes a major problem. On the CV, they were planning to avoid this sort of problem by reserving roughly a third of the deck for each of these missions: Sling loads would be staged aft, where it was easiest to make approaches and lifts; Medivac flights would land amidships; and refueling and rearming would take place forward, well away from the island.

Plans for the flow of materials ashore after the assault were interesting and well thought out. If all went as planned, this flow was to be closely coordinated with troops ashore. But if for any reason communications were disrupted, a default stream of supplies was to be pushed ashore. Also, certain specialized or potentially critical supplies had been broken out of pallets and loaded into duffels ("speedballs"). These duffels were numbered, and a "shopping list" of available duffels was provided to troops going ashore. All they would have to do to get critical supplies was to pass the number and their location back to

the ship; the duffel would have been thrown on the next available helo.

Because the assault was cancelled, this follow-on phase was never reached. Furthermore, it could not even be rehearsed as long as the deck was packed with aircraft.

Modified plan: Contingency support

Deck spot. As mentioned previously, the force shifted to a contingency response posture as soon as it became clear that the assault had been cancelled. Two primary response packages were identified: a large reaction force package (primarily Army), and a smaller hostage-rescue package (primarily SEALs). A deck spot plan (see figure 11) was developed that could support either plan on short notice.

The hostage rescue package consisted of the eight H-60s on the bow, plus six H-6s. The H-6s were staged on the hangar deck, but could be quickly brought up and launched from on or around elevator number 2. Little if any respotting of other aircraft would be required.

The larger reaction-force package involved most of the other aircraft shown unfolded on deck. It was to be launched in three waves. The first wave was to consist of the seven H-47s shown, plus the four H-60s on and abreast of elevator number 1. After they had cleared the deck, four more H-47s would be brought forward and launched. Finally, four H-47s from the first wave would return from the beach, reload, and depart in a third wave.

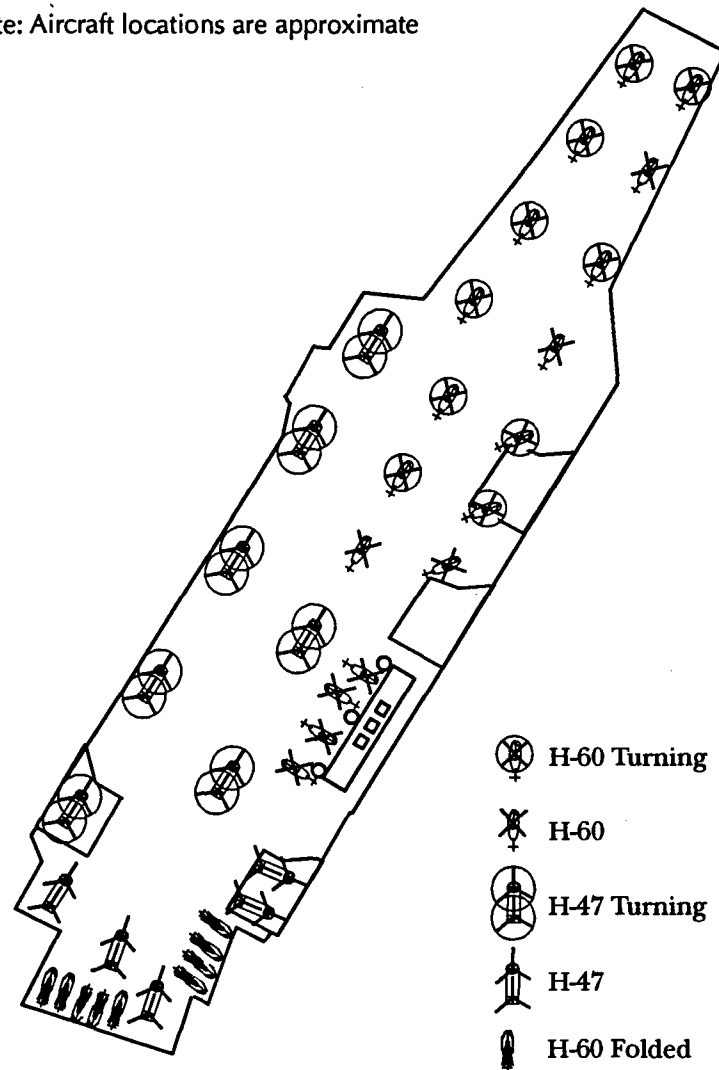
Rehearsals. The reaction-force package was rehearsed on 23 September, and the hostage-rescue package was rehearsed on the 24th. Both went off without major problems. Other observations are discussed in a later section.

Chronology

13 September: USS *America* left Norfolk. The original schedule featured a fly-on on the 14th, a debark rehearsal (no-fly) on the 15th, a day rehearsal on the 16th, and a night rehearsal on the 17th. This would have allowed operations as early as 19 September.

Figure 11. Deck spotting plan for standby missions as of 210230Z
Sept. 94.

Note: Aircraft locations are approximate



14 September: JSOTF helos arrived.

15 September: The debark rehearsal was delayed until evening because respotting took much longer than expected. (See the Observations section.) The overall time line was moved up one day, so the planned day rehearsal was cancelled and the planned night rehearsal was moved up to the 16th.

16 September: The night rehearsal was conducted.

17 September: Assault forces went on eight-hour alert.

18 September: Assault forces remained on eight-hour alert. Most non-essential activity stopped in pre-assault stand-down. Assault orders were expected for the following day.

19 September, 1430 (local): First word was received indicating that the assault was probably not on for that evening.

19 September, 1600: The nominal "H-minus-eight" decision point for a midnight assault passed without having received orders. However, preparations were sufficiently complete that the planned assault could still have been carried out if so ordered by 2000, the time at which the SEAL boats needed to depart.

19 September, 1831: Execute orders were received from CINCUSA-COM.

19 September, 1951: Recall was ordered. The assault was first moved back 24 hours, then cancelled as the decision was made to use other forces for the permissive entry that had been negotiated. JSOTF shifted to a contingency response posture.

20 September: Deck respotted for contingency operations. Forces not required for contingency packages began flowing back to CONUS.

23 September: Launch rehearsal was conducted for the alert battalion reserve contingency.

24 September: Launch rehearsal was conducted for the hostage-rescue contingency.

Observations

Pre-embarkation preparations

Planning meetings. Although the CV and JSOTF made a commendable effort to coordinate beforehand, a lot of the minor problems that came up during the operation could have been easily avoided if they

had been brought up in pre-embarkation discussions. The list of problems that came up during past operations should be used as agenda items. In addition to those points discussed in the following pages, some items could probably have been resolved relatively easily if it had occurred to anyone to bring them up (20/20 hindsight). Examples include the following:

- Time-zone conventions for shipboard operations
- Night-vision goggle procedures.

Also, it is important that all aspects of JSOTF be represented in talks. One JSOTF staffer felt that too much of the planning had been left to the J4 shop, and that a number of problems could have been avoided if there had been more J3 involvement.

Assignment of spaces. Spaces onboard ship were assigned so that the spaces assigned to a particular unit—berthing spaces, storage spaces, magazines, and a mustering and training area on the hangar deck—were as much as possible “stacked” vertically to minimize required movement within the ship. For those units not going up by elevator, routes to the flight deck were also in the same vicinity. This seemed to have worked well. Blueprints provided by the ship were extremely useful in the JSOTF planning process.

Video. The ship put together a video covering the essentials of shipboard life, including man overboard, general quarters, abandon ship, and security alert procedures. JSOTF felt that this was useful for those troops with no sea experience.

Manuals. The equivalent of Navy air training and operation procedures (NATOPS) manuals should be provided to the CV for each type of aircraft that is to be embarked.

Liaison. CPO-level Navy representation on the JSOTF staff was deemed to be particularly important to the planning process.

Movement Control Center. In order to keep track of all of the personnel and material moving to Norfolk for onload, JSOTF established a Movement Control Center at Ft. Bragg. It apparently worked well.

Onload

Staging area. An area was set aside at Norfolk (the old airbase nuclear-weapons storage area) for staging all of the material that was arriving by air or truck. This allowed JSOTF to rearrange and repack materials and take them down to the pier in an order that facilitated unloading. It was generally agreed that doing this on the pier would have caused a lot of unnecessary confusion and delay. Note, however, that such staging areas have to be shielded from general view for JSOTF operations.

Pierside onload. Although a lot of material was unloaded at pier-side, most of the helos also arrived loaded with equipment. Although this may sound efficient, it left the ship facing a major effort and unnecessary confusion in unloading the helos and striking the cargo below. If time allows, consideration should be given to loading as much of the equipment as possible at pier-side.

Initial fly-on. Respotting the deck after the initial fly-on took much longer than anticipated, leading to the postponement or cancellation of several scheduled events. This was partly because the JSOTF personnel lacked experience in working an all-helo deck, but more significantly, to the JSOTF planners, almost every aircraft was unique. The deck spot plan did not simply specify that a spot be occupied by "an H-60" or even "an H-60 from this squadron"; it specified that the spot be occupied by one particular aircraft. Spotting has a lot to do with launch sequence, and to JSOTF planners launch sequence is driven by the mission ashore. Unfortunately, during the initial fly-on aircraft apparently were simply landed and moved off to wherever was convenient at the time. Given the packed deck following the fly-on, this created a problem analogous to one of those puzzles in which scrambled tiles must be slid into the one open space one after another to put them in the desired order. This process took most of the day. In retrospect, either of two alternative courses of action might have been faster:

- Fold a few of the H-60s. A decision had been made not to fold any of the large helos. In general, this was a wise decision, but in this one case the time spent to do this might have been more

than made up for by the time saved in respotting because of the additional maneuvering room.

- Have all the aircraft take off again and recover in the desired spots. This would have required a major effort, but would unquestionably have been much faster. Several people commented that this option would probably have been used if anyone had realized how long the respotting was going to take.

Of course, the best option would have been simply to avoid the problem in the first place. When the helos first fly on, some thought must be given to landing each helo somewhere near its designated spot for subsequent operations.

Air operations

No fixed-wing aircraft. No fixed-wing aircraft were embarked, which allowed the deck to be operated completely as a helo deck. Attempting to operate even a few fixed-wing aircraft from the CV would have complicated matters immensely because it would have been necessary to build deck operations around fixed-wing launch-and-recovery operations. Even operating fixed-wing aircraft during periods of no helo operations would have been a major problem because a major reorganization of the flight deck and hangar decks would have been required to clear the necessary areas.

Folding rotors. With one exception (the Medivac bird), the H-47s and H-60s were never folded until the assault had been cancelled. This was done as a result of experience in previous operations, when folding and unfolding had consumed too much time. This speeded up some aspects of aircraft handling, but it also put a hard limit on the number of large helos that could be embarked because those aircraft had to remain on the flight deck. In practice, this was not a significant restriction because the hangar deck was being put to other good uses. It was storage space for H-6s, vehicles, and cargo to be lifted ashore, as well as a mustering and training space for embarked troops. Folding and storing a significant number of large helos on the hangar deck would have adversely affected these functions.

Flight-deck access. Because JSOTF personnel are more accustomed to operating from relatively large airfields, where aircraft are parked well away from other activity, they seem to be used to having access to their aircraft at all times. (In fact, some seemed to practically live in their helos, eating meals there, and hanging laundry out to dry.) Not surprisingly, the CV's deck personnel were not entirely happy with this practice. A compromise solution is probably in order. JSOTF troops may have to accept the fact that a CV's deck is not a lounge, but the CV may have to accept that some safety regulations designed for fixed-wing operations may be overly stringent for a CV with no fixed-wing aircraft embarked.

Scheduling flight operations. Similarly, JSOTF squadrons are not accustomed to scheduling flights as far in advance as is required in a crowded shipboard environment. This was particularly a problem for post-maintenance check flights (PMCFs). JSOTF pilots were apparently accustomed to making such brief flights with little or no advance notice to anyone. This was primarily a problem of educating the squadrons, teaching them to plan ahead a bit more, and let Air Ops know what they are planning. On the CV side, every effort should be made to make the scheduling process more flexible and able to accommodate late requests for PMCFs. Again, procedures designed for cyclic, fixed-wing operations should not be arbitrarily imposed.

FOD walkdown. Procedures need to be developed and coordinated with JSOTF for conducting FOD walkdowns.

Open-port refueling. Unlike most other shipboard aircraft, the small H-6s are refueled using an "open-port" technique. There is no sealed connection; they are refueled much like a car. This may be a safety issue in a CV-deck environment. If this is assessed to be unacceptable on a routine basis, an adaptor of some sort might resolve this problem.

Loading ammunition. The wrong type of ammunition was delivered to several aircraft. Fortunately, they had begun loading early enough that they had plenty of time to correct the error. Until the CV's ammunition handlers have a chance to become more familiar with the ammo requirements of JSOTF aircraft, it is important that they begin

loading well in advance of any operation, if possible, to give them time to deal with unexpected problems.

Embarking troops. It took much less time than expected to bring the troops up to the flight deck and get them into their aircraft. Two hours had been allowed for loading the first wave of the major assault rehearsal; it was essentially complete after 15 minutes. Planners eventually decided to allow 40 minutes to allow for unexpected complications. Most troops were mustered on the hangar deck and brought up as groups on elevator number 2. Confusion was minimized by having someone from the aircraft meet the troops at the elevator and guide them to the proper aircraft; this is particularly important in low-light conditions.

Pulling chocks. When 30 or 40 aircraft are being launched in one wave, a few minutes must be allowed for pulling all those chocks.

Aircraft numbers. Side numbers on aircraft were not always visible from Flight Ops, which made the Air Boss's job more difficult. Some means of visible identification that will not unduly compromise covertness needs to be developed.

Air Boss. The concept of an Air Boss is somewhat new to some JSOTF personnel. They are more accustomed to having the flight commander coordinate the launch. Some pilots also seemed to want to take their launch cues from the previous aircraft in sequence rather than from flight-deck personnel. This was not a point of conflict—JSOTF personnel were generally willing to conform to CV procedures—they simply were not familiar with all of them.

JSOTF representation in flight ops. JSOTF Air Operations kept a representative with the Air Boss at all times during flight operations. The Air Boss does not have the background necessary to assess the effects of launch delays or the substitution of spares on operations ashore. The JSOTF representative had a dedicated communications link to the JSOTF command center and to the people directing the mustering and onloading of troops.

Respot time. It took longer than expected to respot the deck between the first and second waves of the major assault rehearsal. A half hour

had been allowed, but it actually took more than an hour. The delay was almost entirely caused by the H-47s, which proved to be slower and more difficult to maneuver than expected.

Moving H-6s. It took very little time to stage the H-6s for launch; they are so small and light that they can be moved easily by hand. One minor complication did turn up: Care must be exercised in crossing cat tracks so that the small wheels of the H-6 don't get stuck in them.

Plane guard. Because so many of the flights to and from the CV were heavily loaded with troops, it was felt that a ship plane guard was preferred. A helo plane guard would have had to make several trips to pick up survivors if a troop transport had gone in.

General observations

Boat operations. In what was probably the only substantial problem of the operation, planners discovered only a few days beforehand that planned SEAL boat operations conflicted with planned air operations. The distance offshore from which the SEALs needed to launch did not allow the CV to reach its scheduled launch point for air operations. In addition, the SEALs were to be putting their boats in the water from an elevator at hangar-bay level, which would have required a minor respot after they were done. The problem was resolved by shifting the boats to *Mt. Whitney*. Planning for boat operations must be closely coordinated with air-operations planning.

Manning. JSOTF planners were unaware of some of the unique personnel requirements that they were expected to fill. These requirements are normally met with air-wing personnel on the CV, but are apparently performed by support personnel at the bases from which the JSOTF forces were accustomed to operate. Two examples:

- **Aircraft integrity watch.** An officer and four enlisted personnel were required whenever the ship was not at flight ops to patrol the flight deck and hangar deck, primarily to ensure that no tie-down chains worked loose. The enlisted requirement did not seem to be a problem, but there seemed to be some difficulty in identifying officer watchstanders.

- **Mess-deck duty.** JSOTF forces were expected to provide a number of junior enlisted troops to fill the slots on the mess decks normally filled by air-wing personnel. However, the embarked troops were accustomed to having such chores performed by special support personnel; there seemed to be a general attitude that kitchen duty was not appropriate for fighting men. Nevertheless, they did pitch in and seemed to do a good job.

Mustering. General unfamiliarity with the complex layout of berthing and office spaces seemed to cause JSOTF personnel a lot of problems in coming up with an accurate muster. Their counts were probably more than adequate for their purposes, but a man-overboard drill would probably have been very interesting.

Combat Cargo Officer. Several people mentioned that movement ashore (had it become necessary) would have been easier if the CV had someone corresponding to the Combat Cargo Officer on amphib.

The Marine detachment (MARDET). The MARDET was extremely useful in helping the embarked troops learn the essentials of life at sea.

HERO restrictions. Shipboard HERO guidance did not cover many of the munitions brought aboard by JSOTF forces. This turned out to be an extremely complex problem. The ship's ordnance personnel and JSOTF made a lot of progress on this issue, but many points remained unresolved. This issue must be addressed if such operations are going to become routine.

Demolition charges. JSOTF helos usually carry thermite charges to be used to destroy the helo if it is disabled in hostile territory. These charges are not allowed on board the CV.

Medical wastes. The ship's Medical Officer was not at all happy with the casual way needles were discarded after some of the embarked troops practiced starting IVs on each other. Embarked troops need to be informed of ship's health and safety regulations.

Physical training (PT). JSOTF felt that continued physical training was extremely important for the troops, and the ship made every effort to keep the deck open for PT as much as possible.

Weapons test-firing. Many personal weapons had to be test-fired before the operation. This had to be done from the flight deck (presumably because of flammable or explosive materials on the hangar deck), but it had to be done without unduly interfering with flight-deck operations. The following procedure was adopted: Troops would line up in firing positions along the outer edge of an elevator on the hangar deck, the elevator would be raised, they would fire, then the elevator would immediately be lowered.

Summary

After reading page after page of problems encountered operating JSOTF helos off of *America*, it is easy to get the impression that the experiment was a failure. In fact, it was an almost unqualified success. Most of the problems described above were successfully resolved in the course of the operation. Of those problems that remained, most could have been easily solved if they had been anticipated, and there is no reason to expect that they will be significant problems next time. A few problems will continue to be significant, HERO restrictions, for example, but *none of them are show-stoppers*. JSOTF and *America* clearly demonstrated that they could have conducted the operation as planned. Embarking JSOTF on a CV remains a promising option for future operations.

List of figures

Figure 1. Initial-assault spot plan	7
Figure 2. Intermediate-assault spot plan	8
Figure 3. Final-assault deck spot	9
Figure 4. Hangar-deck loadout schematic, final-assault configuration	11
Figure 5. Assault-wave launch order, 19 September	13
Figure 6. Air operations during ship-to-shore movement	14
Figure 7. Sling-load dynamics	16
Figure 8. Communications during offload operations.	21
Figure 9. First Launch: Task Force Atlanta as of 121400R Sept. 94	34
Figure 10. Second Launch: Task Force Atlanta as of 152300Z Sept. 95	35
Figure 11. Deck spotting plan for standby missions as of 210230Z Sept. 94.	39

List of tables

Table 1.	Equipment loadout	5
Table 2.	Helicopter loadout	6
Table 3.	Aircraft flight-deck/hangar-bay mix (14 September)	11
Table 4.	AH-1 ordnance loadout.	26